

REMARKS

Claims 34, 46 and 56 are amended. Claims 34-66 are pending, of which claims 34, 46 and 56 are independent claims.

The claim amendments are supported by the application as filed, including for example Page 14 lines 27-29 which describe that the transfer circuit 42 routes the packets from the input ports to the output ports.

In the Office Action, claims 34, 37, 46, 49, 56, and 59 are rejected under 35 U.S.C. § 102 based on Meurisse (US 5,959,973), and claims 35, 36, 47, 48, 57, and 58 are rejected under 35 U.S.C. § 103(a) as being obvious in view of Meurisse and Karol (US 5,675,573). These rejections are respectfully traversed.

With respect to the rejections under 35 U.S.C. § 102, claim 34 as amended recites a method for managing a flow of packets which includes:

(1) transferring packets of a particular packet flow from input ports to output ports of the data communications device based on an initial policy scheme controlling an initial manner in which the packets are transferred from the input ports to the output ports of the data communications device;

(2) planning a scheme change to change the initial policy scheme to a new policy scheme based on transfer conditions within the data communications device existing while transferring the packets of the particular flow based on the initial policy scheme, the new policy scheme controlling a new manner in which the packets are transferred from the input ports to the output ports of the data communications device; and

providing a change signal to a source of the particular packet flow, the change signal indicating that the data communications device has planned the scheme change.

The method is concerned with the problem of a network device changing the manner in which it transfers packets internally (e.g., whether packets are subject to dropping or not) and such change having a potentially deleterious

effect on the packet flow at the network level. The method provides for a network device to notify a source of the packet flow (i.e., an upstream network device) of a planned scheme change to enable the upstream device to influence whether the scheme change happens or not. This operation can enable overall better network operation, as the upstream device may have better information about whether the planned scheme change should be carried out.

Meurisse shows the so-called "explicit rate" (ER) operation of an ATM network, in which a queuing network node can explicitly signal an upstream node regarding limits on the data rate of packets sent to the queuing node based on the level of congestion at the queuing node. Meurisse does not describe any particular manner in which the packets are transferred from input ports to output ports within the queuing node, and moreover does not describe any relationship between any change in the manner of such internal transfer and any corresponding change of the explicit rate signaled to the upstream devices. Meurisse is not concerned with enabling an upstream device to influence how a downstream device performs its internal packet transfers, rather, it is concerned with enabling a downstream device to control the operation of an upstream device (its transmission rate) to respond to changes in congestion level at the downstream device.

It is respectfully submitted that Meurisse does not anticipate claim 34, because it fails to teach all the elements thereof. Specifically, Meurisse does not show the above-underlined features which include an initial policy scheme controlling an initial manner in which the packets are transferred from the input ports to the output ports of the data communications device and a new policy scheme controlling a new manner in which the packets are transferred from the input ports to the output ports of the data communications device. Meurisse fails to show any specific manner of transferring packets within the queuing node, and thus also cannot show any relationship between any change in the manner of internal transfer and any signaling to an upstream node. Because Meurisse fails

to show at least these elements of claim 34, Meurisse cannot anticipate claim 34 under 35 U.S.C. § 102.

The above observations regarding claim 34 are likewise applicable to claims 37, 46, 49, 56, and 59 also rejected under 35 U.S.C. § 102 in view of Meurisse.

Additionally, with respect to claims 37, 49 and 59, Meurisse is not seen to provide any teaching of the particular policy change from one packet classification scheme to another. Although the connections may be classified, as noted in the Office Action, this feature of Meurisse does not meet the claim language. Thus these claims are seen to be even more distinct from the teaching of Meurisse.

With respect to the rejections under 35 U.S.C. § 103, claim 35 recites the method of claim 34 wherein the initial policy scheme is an initial packet dropping scheme for dropping packets from the particular packet flow, and wherein the new policy scheme is a new packet dropping scheme for dropping packets from the particular packet flow in a manner that is different than that of the initial packet dropping scheme. Claim 36 recites the method of claim 34 wherein the initial policy scheme is an initial packet scheduling scheme for scheduling packets of the particular packet flow for transmission, and wherein the new policy scheme is a new packet scheduling scheme for scheduling packets of the particular packet flow for transmission in a manner that is different than that of the initial packet scheduling scheme. Both of these recite specific manners by which the data communications device transfers packets from its input ports to its output ports, as well as planning a change from an initial scheme (e.g. initial packet dropping scheme) to a new scheme (e.g. new packet dropping scheme) and signaling appropriately.

The Karol reference describes a system that divides incoming network traffic into "guaranteed bandwidth" and "first-come-first-served" traffic for purposes of managing how packets (cells) are sent from input buffers to a "processing fabric" 150. As noted in the Office Action, Karol acknowledges prior

art approaches that employ priority schemes and packet-dropping schemes to meet QoS requirements, but Karol itself makes no use of any such schemes, provides no description of how such schemes are used, and does not teach or suggest any use of such schemes that in any meaningful way relates to the teaching of Meurisse. Karol does not describe any planning to change from one such scheme to another, nor any relationship between any such planning to any signaling of the type utilized in Meurisse. Karol is merely concerned with its particular scheme for internal processing of packets, with only passing reference to other known prior art schemes.

It is respectfully submitted that the combination of Meurisse and Karol cannot render claims 35-36, 47-48 and 57-58 obvious, because even if these references are combined they do not teach all the elements of these claims. In particular, this combination does not teach planning to change from an initial packet-dropping scheme to a new packet dropping scheme, nor planning to change from an initial packet scheduling scheme to a new packet scheduling scheme, and then signaling such a plan to a source of a packet flow. As described above, Meurisse does not describe any manner of internal packet transfers nor any changing from one manner to another. Meurisse only shows signaling an explicit rate to be used on the link in response to congestion at the queuing node. And although Karol does provide some description regarding internal transfers (i.e., how packets are selected for processing by the fabric), as well as a passing reference to prioritization and packet-dropping schemes, Karol does not describe planning a change from an initial prioritization scheme to a new prioritization scheme, nor planning a change from an initial packet-dropping scheme to a new packet-dropping scheme. Thus, even when taken together these references do not teach or suggest at least these aspects of claims 35 and 36, and therefore cannot render these claims obvious under 35 U.S.C. § 103.

The above observations regarding claims 35 and 36 are likewise applicable to claims 47-48 and 57-58 also rejected under 35 U.S.C. § 102 in view of Meurisse and Karol.

Conclusion

In view of the amendments and remarks herein, this Application should be in condition for allowance. A Notice to this affect is respectfully requested. If the Examiner believes, after this Response, that the Application is not in condition for allowance, the Examiner is respectfully requested to call the Applicant's Representative at the number below.

Applicants hereby petition for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this response, including an extension fee, please charge any deficiency to Deposit Account No. 50-3661.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned collect at (508) 616-2900, in Westborough, Massachusetts.

Respectfully submitted,

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